Listing of Claims:

1. (Currently Amended) A pulse pattern generator comprising:

a pulse generating unit which generates a pulse signal formed in a step-like wave [[,]] in which at least one of a rise and fall of [[a]] the pulse signal ~~having a predetermined change amplitude value~~ is changed in a step-like manner in a predetermined bit string between first and second predetermined amplitude values to provide a step at an amplitude between the first and second predetermined amplitude values;

a lowpass filter which smooths the pulse signal formed in the step-like wave, the pulse signal being generated by the pulse generating unit, and outputs a smoothed pulse signal; and

an amplitude-value setting unit which adjusts an amplitude value of [[a]] the step-like wave that forms the pulse signal based on the amplitude value, in order to set an eye waveform at a predetermined eye closure when an output from the lowpass filter is eye-patterned, wherein the pulse signal having a desired pulse pattern with the predetermined eye closure set by the amplitude-value setting unit is configured as output from the lowpass filter.

2. (Previously Presented) The pulse pattern generator according to claim 1, wherein the pulse generating unit includes:

a basic pulse generating unit which generates a basic pulse signal having a predetermined amplitude value in a predetermined bit string;

a deformation pulse generating unit which generates a deformation pulse, the deformation pulse having an amplitude value different from the predetermined amplitude value of the basic pulse signal and having a phase different from the phase of the basic pulse signal, in a bit string identical to the bit string of the basic pulse signal generated by the basic pulse generating unit; and

a signal multiplexing unit which outputs the pulse signal formed in the step-like wave by multiplexing the basic pulse signal generated by the basic pulse generating unit and the deformation pulse signal generated by the deformation pulse generating unit.

3. (Previously Presented) The pulse pattern generator according to claim 1, wherein the pulse generating unit includes:

a basic pulse generating unit which generates a basic pulse signal having a predetermined amplitude value in a predetermined bit string;

a plurality of deformation pulse generating units which generate a plurality of deformation pulse signals having phases equal to or delayed from the phase of the basic pulse signal, in a bit string identical to the bit string of the basic pulse signal generated by the basic pulse generating unit; and

a signal multiplexing unit which outputs the pulse signal formed in the step-like wave by multiplexing the plurality of deformation pulse signals generated by the plurality of deformation pulse generating units.

4. (Previously Presented) The pulse pattern generator according to claim 3, wherein the plurality of deformation pulse generating units include:

a first deformation pulse generating unit which generates a first deformation pulse signal having a phase equal to or delayed from the phase of the basic pulse signal;

a second deformation pulse generating unit which generates a second deformation pulse signal having a phase delayed by a predetermined amount from the phase of the first deformation pulse signal; and

a third deformation pulse generating unit which generates a third deformation pulse signal having a phase delayed by a predetermined amount from the phase of the second deformation pulse signal.

5. (Previously Presented) The pulse pattern generator according to claim 3, wherein the plurality of deformation pulse generating units include:

a first deformation pulse generating unit which generates a first deformation pulse signal having a phase equal to or delayed from the phase of the basic pulse signal;

a second deformation pulse generating unit which generates a second deformation pulse signal having a phase delayed by a predetermined amount from the phase of the first deformation pulse signal; and

a third deformation pulse generating unit which generates a third deformation pulse signal having a phase delayed by a predetermined amount from the phase of the second deformation pulse signal;

a fourth deformation pulse generating unit which generates a fourth deformation pulse signal having a phase delayed by a predetermined amount from the phase of the third deformation pulse signal; and

a fifth deformation pulse generating unit which generates a fifth deformation pulse signal having a phase delayed by a predetermined amount from the phase of the fourth deformation pulse signal.

6. (Previously Presented) The pulse pattern generator according to claim 2, wherein the pulse generating unit includes:

a binary pulse generating circuit which generates a binary pulse signal, the binary pulse signal generating circuit serving as the basic pulse generating circuit;

a one-bit delay circuit which delays the binary pulse signal output from the binary pulse signal generating circuit by one bit, and a two-bit delay circuit which delays the binary pulse signal output from the binary pulse signal generating circuit by two bits, the one-bit delay circuit and two-bit delay circuit each serving as the deformation pulse generating circuit; and

a signal multiplexing unit which outputs an eight-level pulse signal by multiplexing output signals of the binary pulse signal generating circuit, the one-bit delay circuit, and the two-bit delay circuit.

7. (Previously Presented) The pulse pattern generator according to claim 3, wherein the pulse generating unit comprises:

flip-flops cascade-connected in a plurality of stages serving as the basic pulse generating circuit and the deformation pulse generating circuit, a first stage being set as a master while the stages subsequent to the first stage being set as a slave, data having a predetermined data frequency being supplied

to a data terminal of the first stage, a clock having a frequency double the data frequency being commonly supplied to a clock terminal of each stage, thereby, when the output from an intermediate stage is set at a reference pulse signal (reference wave), the stage precedent to the intermediate stage outputs the predetermined number of first deformation pulse signals (negative phase deformation waves) having the phases leading the phase of the reference wave by a predetermined phase amount while the stage subsequent to the intermediate stage outputs the predetermined number of second deformation pulse signals (positive phase deformation waves) having the phases delayed from the phase of the reference wave by a predetermined phase amount; amplifiers having a plurality of stages which receive outputs from each stage of the flip-flops cascade-connected in the plurality of stages, respectively; and

a signal multiplexing unit which outputs the pulse signal formed in the step-like wave by multiplexing the outputs of the amplifiers having the plurality of stages, and the amplitude-value setting unit includes a gain setting unit which sets gains at gain setting units of the amplifiers having the plurality of stages such that a predetermined amplitude-value relationship is established among the reference pulse signal (reference wave), the first deformation pulse signal (negative phase deformation wave), and the second deformation pulse signal

(positive phase deformation wave), in order that finally the output from the lowpass filter has the desired eye closure.

8. (Currently Amended) A communication device evaluation system utilizing a pulse pattern generator comprising:

a pulse pattern generator comprising:

a pulse generating unit which generates a pulse signal formed in a step-like wave [[,]] in which at least one of a rise and fall of [[a]] the pulse signal ~~having a predetermined change amplitude value~~ is changed in a step-like manner in a predetermined bit string between first and second predetermined amplitude values to provide a step at an amplitude between the first and second predetermined amplitude values;

a lowpass filter which smooths the pulse signal formed in the step-like wave, the pulse signal being generated by the pulse generating unit, and outputs a smoothed pulse signal; and

an amplitude-value setting unit which adjusts an amplitude value of the step-like wave that forms the pulse signal based on the amplitude value, in order to set an eye waveform at a predetermined eye closure when an output from the lowpass filter is eye-patterned, wherein the pulse signal having a desired pulse pattern with the predetermined eye closure set by the amplitude-value setting unit is configured as output from the lowpass filter, and

a characteristic evaluation device which evaluates predetermined characteristics of a device under test based on the pulse signal having the desired pulse pattern with the predetermined eye closure output from the lowpass filter of the pulse pattern generator.

9. (Previously Presented) The communication device evaluation system utilizing a pulse pattern generator according to claim 8, wherein the pulse generating unit of the pulse pattern generator includes:

a basic pulse generating unit which generates a basic pulse signal having a predetermined amplitude value in a predetermined bit string;

a deformation pulse generating unit which generates a deformation pulse having an amplitude value different from the predetermined amplitude value of the basic pulse signal and having a phase different from the phase of the basic pulse signal, in a bit string identical to the bit string of the basic pulse signal generated by the basic pulse generating unit; and

a signal multiplexing unit which outputs the pulse signal formed in the step-like wave by multiplexing the basic pulse signal generated by the basic pulse generating unit and the deformation pulse signal generated by the deformation pulse generating unit.

10. (Previously Presented) The communication device evaluation system utilizing a pulse pattern generator according to claim 8, wherein the pulse generating unit includes:

a basic pulse generating unit which generates a basic pulse signal having a predetermined amplitude value in a predetermined bit string;

a plurality of deformation pulse generating units which generate a plurality of deformation pulse signals having phases equal to or delayed from the phase of the basic pulse signal, in a bit string identical to the bit string of the basic pulse signal generated by the basic pulse generating unit; and

a signal multiplexing unit which outputs the pulse signal formed in the step-like wave by multiplexing the plurality of deformation pulse signals generated by the plurality of deformation pulse generating units.

11. (Previously Presented) The communication device evaluation system utilizing a pulse pattern generator according to claim 10, wherein the plurality of deformation pulse generating units include:

a first deformation pulse generating unit which generates a first deformation pulse signal having a phase equal to or delayed from the phase of the basic pulse signal;

a second deformation pulse generating unit which generates a second deformation pulse signal having a phase delayed by a predetermined amount from the phase of the first deformation pulse signal; and

a third deformation pulse generating unit which generates a third deformation pulse signal having a phase delayed by a predetermined amount from the phase of the second deformation pulse signal.

12. (Previously Presented) The communication device evaluation system utilizing a pulse pattern generator according to claim 10, wherein the plurality of deformation pulse generating units includes:

a first deformation pulse generating unit which generates a first deformation pulse signal having a phase equal to or delayed from the phase of the basic pulse signal;

a second deformation pulse generating unit which generates a second deformation pulse signal having a phase delayed by a predetermined amount from the phase of the first deformation pulse signal; and

a third deformation pulse generating unit which generates a third deformation pulse signal having a phase delayed by a predetermined amount from the phase of the second deformation pulse signal;

a fourth deformation pulse generating unit which generates a fourth deformation pulse signal having a phase delayed by a predetermined amount from the phase of the third deformation pulse signal; and

a fifth deformation pulse generating unit which generates a fifth deformation pulse signal having a phase delayed by a predetermined amount from the phase of the fourth deformation pulse signal.

13. (Previously Presented) The communication device evaluation system utilizing a pulse pattern generator according to claim 8, wherein the pulse generating unit of the pulse pattern generator includes:

a binary pulse signal generating circuit which generates a binary pulse signal, the binary pulse signal generating circuit serving as the basic pulse generating circuit;

a one-bit delay circuit which delays the binary pulse signal output from the binary pulse signal generating circuit by one bit, and a two-bit delay circuit which delays the binary pulse signal output from the binary pulse signal generating circuit by two bits, the one-bit delay circuit and two-bit delay circuit each serving as the deformation pulse generating circuit; and

a signal multiplexing unit which outputs an eight-level pulse signal by multiplexing output signals of the binary pulse

signal generating circuit, the one-bit delay circuit, and the two-bit delay circuit.

14. (Previously Presented) The communication device evaluation system utilizing a pulse pattern generator according to claim 8, wherein the pulse generating unit of the pulse pattern generator includes:

flip-flops cascade-connected in a plurality of stages serving as the basic pulse generating circuit and the deformation pulse generating circuit, a first stage being set as a master while the stages subsequent to the first stage being set as a slave, data having a predetermined data frequency being supplied to a data terminal of the first stage, a clock having a frequency double the data frequency being commonly supplied to a clock terminal of each stage, thereby, when the output from an intermediate stage is set at a reference pulse signal (reference wave), the stage precedent to the intermediate stage outputs the predetermined number of first deformation pulse signals (negative phase deformation waves) having the phases leading the phase of the reference wave by a predetermined phase amount while the stage subsequent to the intermediate stage outputs the predetermined number of second deformation pulse signals (positive phase deformation waves) having the phases delayed from the phase of the reference wave by a predetermined phase amount;

amplifiers having a plurality of stages which receive outputs from each stage of the flip-flops cascade-connected in the plurality of stages, respectively; and

a signal multiplexing unit which outputs the pulse signal formed in the step-like wave by multiplexing the outputs from each stage of the amplifiers having the plurality of stages, wherein the amplitude-value setting unit includes a gain setting unit which sets gains at gain setting units of the amplifiers having the plurality of stages such that a predetermined amplitude-value relationship is established among the reference pulse signal (reference wave), the first deformation pulse signal (negative phase deformation wave), and the second deformation pulse signal (positive phase deformation wave), in order that finally the output from the lowpass filter has a desired eye closure.

15. (Previously Presented) The communication device evaluation system utilizing a pulse pattern generator according to claim 8, wherein the device under test is a communication device which performs communication with at least one of an electric signal and an optical signal.